AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are, or were, in the present application, irrespective of whether the claim(s) remain(s) under examination in the application is presented below. The claims are presented in ascending order and each includes one status identifier. Those claims not cancelled or withdrawn but amended by the current amendment utilize the following notations for amendment: 1. deleted matter is shown by strikethrough for six or more characters and double brackets for five or fewer characters; and 2. added matter is shown by underlining.

1-19. (Cancelled).

20. (Currently Amended) A machining device which machines a material by non-linear absorption of machining laser radiation, comprising:

- a laser radiation source emitting said machining laser radiation in a beam having a cross section;

- optics focusing the machining laser radiation for non-linear absorption into or onto the material; and

a polarization modulator which causes the focused machining laser radiation to be linearly polarized, with a polarization direction varying across the beam cross-section.

21. (Currently Amended) The machining device as claimed in claim 20, further comprising a deflecting unit which modifies a spatial position of the focus in the material by controllable deflection of the laser beam, the deflection being controlled such that the focused machining laser radiation is shifted three dimensionally.

22. (Currently Amended) The machining device as claimed in claim [[20]] 21, wherein the polarization modulator is arranged between the laser radiation source and the deflecting unit.

23. (Previously Presented) The machining device as claimed in claim 20, wherein the laser radiation source emits linearly polarized radiation and the polarization modulator inhomogeneously modifies the polarization direction of the laser beam across the beam-cross section.

24. (Currently Amended) The machining device as claimed in claim 20, wherein the polarization modulator is arranged within the laser radiation source such that the laser radiation source emits laser radiation having a polarization direction which varies across the beam cross-section or with modified intensity distribution.

25. (Previously Presented) The machining device as claimed in claim 20, wherein the polarization modulator is adjustable, with respect to the variation of the polarization direction.

26. (Previously Presented) The machining device as claimed in claim 25, further comprising a control unit which modifies the variation of the polarization direction during operation of the machining device.

27. (Previously Presented) The machining device as claimed in claim 20, wherein the laser radiation source emits pulsed laser radiation with a pulse duration of less than 10,000 fs.

28. (Previously Presented) The machining device as claimed in claim 27, wherein the laser radiation source emits pulsed laser radiation with a pulse duration of less than 500 fs.

29. (Previously Presented) The machining device as claimed in claim 25, wherein the laser radiation source operates at a pulse repetition frequency of more than 100 kHz.

30. (Previously Presented) The machining device as claimed in claim 25, wherein the laser radiation source operates at a pulse repetition frequency of more than, 450 kHz.

31. (Previously Presented) The machining device as claimed in claim 20, further comprising:

an intensity modulator which modifies an intensity distribution of the laser radiation, thereby attenuating radiation intensity near an optical axis of optics focusing the laser radiation.

32. (Withdrawn) The machining device as claimed in claim 31, further comprising a deflecting unit which modifies a spatial position of the focus in the material by controllable deflection of the laser beam.

33. (Withdrawn) The machining device as claimed in claim 31, wherein the modulator is arranged between the laser radiation source and the deflecting unit.

34. (Withdrawn) The machining device as claimed in claim 31, wherein the modulator is arranged within the laser radiation source such that the laser radiation source emits laser radiation having a polarization direction which varies across the beam cross-section or with modified intensity distribution.

35. (Withdrawn) The machining device as claimed in claim 31, wherein the laser radiation source emits pulsed laser radiation with a pulse duration of less than 10,000 fs.

36. (Withdrawn) The machining device as claimed in claim 35, wherein the laser radiation source emits pulsed laser radiation with a pulse duration of less than 500 fs.

37. (Previously Presented) The machining device as claimed in claim 31, wherein the intensity modulator blocks out radiation components near the optical axis.

38. (Previously Presented) The machining device as claimed in claim 31, wherein the intensity modulator effects energy distribution away from regions near the optical axis.

39. (Previously Presented) A method for machining a material comprising:

focusing laser radiation into or onto the material;

selecting the parameters of the laser radiation and the focusing such that a non-linear absorption of the laser radiation is caused in the material;

linearly polarizing the laser radiation before focusing; and

varying a polarization direction across the beam cross-section.

40. (Previously Presented) The method as claimed in claim 39, further comprising shifting the position of the focus of the laser radiation at least two-dimensionally.

41. (Previously Presented) The method as claimed in claim 39, further comprising adjusting the variation of the polarization direction during machining.

42. (Previously Presented) The method as claimed in claim 41, further comprising determining and controlling a quality parameter of machining, with the variation of the polarization directions being used as the manipulated variable.

43. (Previously Presented) The method as claimed in claim 39, further comprising focusing the laser radiation in the vicinity of the surface of the material to be machined, with the distance of the focus from the surface of the material to be machined lying approximately in the range of the Rayleigh length of the radiation.

44. (Previously Presented) The method as claimed in claim 39, further comprising forming cut surfaces in the material by areal sequential arrangement of optical breakthroughs generated by non-linear absorption, the cut surfaces being located in the material and have a cutting line extending, up to the surface of the material.

45. (Previously Presented) The method as claimed in claim 39, further comprising:

modifying the intensity distribution of the laser radiation before focusing is modified, with the radiation intensity being attenuated near the optical axis.

46. (Withdrawn) The method as claimed in claim 45, further comprising shifting the position of the focus of the laser radiation at least two-dimensionally.

47. (Previously Presented) The method as claimed in claim 45, further comprising modifying the intensity distribution during machining.

48. (Previously Presented) The method as claimed in claim 47, further comprising determining and controlling a quality parameter of machining, with the variation of the intensity distribution being used as the manipulated variable.

49. (Withdrawn) The method as claimed in claim 45, further comprising focusing the laser radiation in the vicinity of the surface of the material to be machined, with the distance of the focus from the surface of the material to be machined lying approximately in the range of the Rayleigh length of the radiation.

50. (Withdrawn) The method as claimed in claim 45, further comprising forming cut surfaces in the material by areal sequential arrangement of optical breakthroughs generated by non-linear absorption, the cut surfaces being located in the material and have a cutting line extending, up to the surface of the material.